Santa Clara, CA | New Providence, NJ

November 12, 2020

VIA ECFS

Marlene H. Dortch, Secretary Federal
Communications Commission 445
12th Street S.W.
Room TWA325
Washington, DC 20554

Re: Notice of *Ex Parte* Presentation
W.C. Docket No. 18-89

Dear Ms. Dortch:

On November 10, 2020, David Poticny of Blue Danube System (BDS), Michael McMenamin and Chelsey Hickman of Winning Strategies Washington; met with Austin Bonner, Legal Advisor to Federal Communications Commission (FCC/Commission) Commissioner Starks to discuss the Secure and Trusted Communications Networks Act of 2019 (Secure Networks Act/Act),[1] and its associated proceedings at the FCC.[2]

During the meeting, BDS explained that the United States (U.S.) could advance its national 5G strategy using our patented, innovative technology that can accelerate and enhance U.S. deployment of 5G – and enable the U.S. to win the 5G race against China's Huawei and ZTE.

BDS is the only company in the U.S. that is designing, building, and deploying 5G/4G Massive Multiple-Input and Multiple-Output (MaMIMO) radios.

[1] Pub. L. 116-124, 133 Stat. 158 (2020) (Secure Networks Act)

[2] *See, Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs*, 85 Fed. Reg. 4834, (August 10, 2020**).** The Public Safety and Homeland Security Bureau previously sought comment on the Secure Networks Act's effect on the initial designation proceedings of Huawei and ZTE. *See Public Safety and Homeland Security Bureau Seeks Comment on Applicability of Secure and Trusted Communications Networks Act of 2019 to Initial Designation Proceedings of Huawei and ZTE*, PS Dockets 19-351, 19-352, Public Notice, DA 20-267 (PSHSB March 13, 2020); *See also, Wireline Competition Bureau and Office of Economics and Analytics Open Reporting Portal for Supply Chain* Security *Information Collection*, *Requires Eligible Telecommunications Carriers to Report Existing Huawei and ZTE Equipment and Services and Replacement Costs, W.C. Docket 18-89,* DA 20-166, (February 26, 2020).

BDS has developed and is manufacturing 3D beamforming MaMIMO radios based on a breakthrough in phased arrays, similar to systems used by military and intelligence agencies, but at a much lower cost. Our next-generation commercial wireless solutions for mobile networks and other applications can be seen using 3D beamforming MaMIMO solution. BDS's Coherent MaMIMO solution also brings 5G beamforming to today's commercial and government networks, dramatically increasing network capacity and end-user experience. Together with a cloud-based software suite that uses Artificial Intelligence (A.I.) and Machine Learning (M.L.) techniques, BDS's technology enables up to a 10X capacity increase with today's smartphones. BDS's products can enhance current networks and speed the deployment of 5G at a fraction of the cost by using comparatively inexpensive network components.

The BDS solution has been proven on multiple carrier networks. It is the only MaMIMO system to improve FDD bands, which represent 100% of the sub-6GHz spectrum holdings of AT&T, Verizon, T-Mobile, and DISH. BDS's solution also beat Huawei definitively in a head-to-head trial. We have also demonstrated that our beamforming is useful in dense urban networks and delivers enhanced data rates and coverage in rural deployments. Besides, the economic value in capacity improvement can be compared to the equivalent cost of the physical spectrum, e.g., a 2X increase would be worth $1 billion per MHz in the U.S. or $250 billion to the top four operators.

BDS's latest commercial evaluation is operational in Providence, Rhode Island. In addition to achieving over 2X in capacity gain, the traffic variation due to Covid-19 has been tracked and serviced with the flexible beams created from the BDS phased array radio antenna system. The first live commercial demonstration of the ORAN M-plane (management plane) to control beam movement was also completed.

As for the insecure equipment that is currently installed in the U.S., we believe that it is of various ages and vintages. The replacement effort must include two key objectives: 1) all installed replacements should be the newest available equipment, and 2) all gear should be LTE compatible. At a minimum, be upgradeable to 5G. It means that all equipment can be upgraded to 5G and not require a "tower climb" or "truck roll" to accomplish the upgrade. The products should be capable of performing 3D beamforming for capacity and coverage (including **rural** areas) where required. Also, the products should use standard open interfaces or be upgradeable to open interfaces, again without a requirement for a tower climb or truck roll.

Many of the core cellular network interfaces are open. It has given several companies the ability to develop and implement products in this space. Open interfaces have driven the whole 'virtualization' effort. It has led to the use of standard computing platforms to perform functions that were once delivered on individual purpose-built platforms. There is one primary system interface that is still not "open": the radio access interface.

To date, the industry has almost universally implemented the Common Public Radio Interface (CPRI) to link the radio to the baseband part of the core network. While CPRI is a standard, the implementation details are not – as a result, the large OEMs have each implemented the CPRI with hundreds of different control messages, packet sequences, and timing methods. In essence, this has the effect of making this interface proprietary to each OEM. The major operators have pushed for years to have this interface documentation open, with only modest results. It has limited the ability of small companies such as Blue Danube to enter the market

successfully. It has slowed the implementation of advanced technologies being developed by innovative companies in the U.S.

BDS is committed to open radio interfaces and can interoperate with all core network products. The government must provide open interfaces using non-proprietary solutions to take advantage of economies of scale, ensuring innovation and competition while keeping costs down.

Pursuant to Section 1.1206(b)(2) of the Commission's rules, this letter is being filed electronically with your office. Please contact me with any questions about this filing.

Respectfully submitted,

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Cc: Austin Bonner